

932063

Preliminary Assessment
Vicinity of Pine
Niagara Falls, New York

02-8710-85-PA

REV. NO. 0

PRELIMINARY ASSESSMENT
VICINITY OF PINE
NIAGARA FALLS, NEW YORK

COMPLETED

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8710-85
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

FEBRUARY 22, 1988

RECEIVED

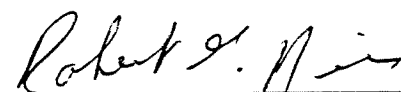
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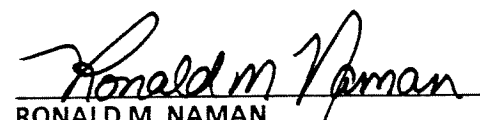
NUS CORPORATION
SUPERFUND DIVISION

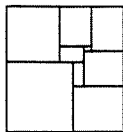
BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

SUBMITTED BY:

REVIEWED/APPROVED BY:


ROBERT G. NIES
PROJECT MANAGER


RONALD M. NAMAN
FACILITY MANAGER



N U S
CORPORATION

POTENTIAL HAZARDOUS WASTE SITE

PRELIMINARY ASSESSMENT

02-8710-85-PA

Rev. No. 0

Vicinity of Pine _____

Site Name

NY980535462

EPA Site ID Number

Pine Avenue and Tuscarora Road

Niagara Falls, NY 14304

Address

02-8710-85

TDD Number

Date of Site Visit: 11/09/87 Off-Site Reconnaissance

SITE DESCRIPTION

The Vicinity of Pine Site, also known as the Charles Gibson Site, is located near the intersection of Pine Avenue and Tuscarora Road and lies partly in Niagara Falls and partly in the town of Niagara. It consists of an approximately 4-acre area bounded by Cayuga Creek on the east and north, Tuscarora Road on the west, and Pine Avenue on the south. A single family home is situated on the northern half of the site. On the southern half is an abandoned motel and an auto sales business. During November 1957, 438 drums of hexachlorobenzene were deposited at the site and covered with 101 truckloads of hexachlorocyclohexane cake.

PRIORITY FOR FURTHER ACTION: High ☐ Medium ☐ No Further Action ☒

RECOMMENDATIONS

Olin Chemical has admitted to dumping hexachlorobenzene and hexachlorocyclohexane on the site and has recently entered into a stipulated agreement with the State of New York. An RI/FS has been conducted and the remedial plan is being finalized. Although the actual clean-up is not anticipated until late 1988 or 1989, the site does not warrant further action under the Federal Superfund Program.

Prepared by: Robert G. Nies
of NUS Corporation

Date: 02/22/88

ATTACHMENT A
POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

affected through the air and direct contact routes.



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE

NY

02 SITE NUMBER

980535462

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION

There is potential for groundwater contamination through the migration of chemicals to the unconfined aquifer. However, groundwater is not used as a source of drinking water within 3 miles.

01 ☒ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION

There is potential for the contamination of Cayuga Creek which borders the site on its north and east sides. Contaminants could migrate into the creek through surface water runoff. There are no intakes for drinking water within 3 miles and advisories against fishing and swimming are posted along Cayuga Creek.

01 ☒ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: Approx. 65,000 04 NARRATIVE DESCRIPTION

A site inspection conducted by the Niagara County Health Department revealed a strong chemical odor reminiscent of chemical herbicides and/or pesticides on site.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

There is no potential for fire or explosive conditions due to the nature of the contaminants.

01 ☒ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: Approx. 13,000 04 NARRATIVE DESCRIPTION

There is potential for direct contact. On the northern half of the site is a single family dwelling. These residents could be affected through direct contact with contaminated soil or surface water.

01 ☒ F. CONTAMINATION OF SOIL 02 ☒ OBSERVED (DATE: 11/57) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: Approx. 4 04 NARRATIVE DESCRIPTION
(Acres)

Olin Corporation admitted to dumping 438 drums of hexachlorobenzene and 101 truckloads of hexachlorocyclohexane cake on site in November 1957.

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION

There is no potential for the contamination of drinking water. The intakes for community water systems on the Niagara River are not within 3 miles and groundwater is not used as a drinking water source.

01 ☒ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: Unknown 04 NARRATIVE DESCRIPTION

A commercially active property lies on the southern half of the site. Workers could be affected through direct contact with contaminated soil or surface water or through inhalation of potentially contaminated air.

01 ☒ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: Approx. 65,000 04 NARRATIVE DESCRIPTION

The local population could be affected through the inhalation of contaminated air or through direct contact with contaminated soil or surface water.



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE

02 SITE NUMBER

NY

980535462

II. HAZARDOUS CONDITIONS AND INCIDENTS (CONTINUED)

01 ☒ J. DAMAGE TO FLORA

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☒ ALLEGED

04 NARRATIVE DESCRIPTION

Reportedly, residents have had difficulty in growing grass and shrubs in different locations on site. Vegetation along Cayuga Creek could also be affected.

01 ☒ K. DAMAGE TO FAUNA

02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION (Include name(s) of species)

There is potential for damage to fauna through the ingestion of pesticide-contaminated soil or surface water. The gamma isomer of hexachlorocyclohexane is especially toxic to aquatic life.

01 ☒ L. CONTAMINATION OF FOOD CHAIN

02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

There is potential for the contamination of the food chain through the ingestion of contaminated surface water, plants, or lower organisms. The gamma isomer of hexachlorocyclohexane is known to bioaccumulate in aquatic life.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES

02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED

(Spills, Runoff, Standing liquids, Leaking drums)

03 POPULATION POTENTIALLY AFFECTED: Approx. 13,400 04 NARRATIVE DESCRIPTION

There is no known system of waste containment.

01 ☒ N. DAMAGE TO OFF-SITE PROPERTY

02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

There is a potential for off-site damage through surface water runoff.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

There are no storm drains in the area, therefore the potential for contamination does not exist.

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING

02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

There is potential for illegal or unauthorized dumping. The site is not fenced and is easily accessible.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

No other known, potential, or alleged hazards.

III. TOTAL POPULATION POTENTIALLY AFFECTED: Approx. 65,000

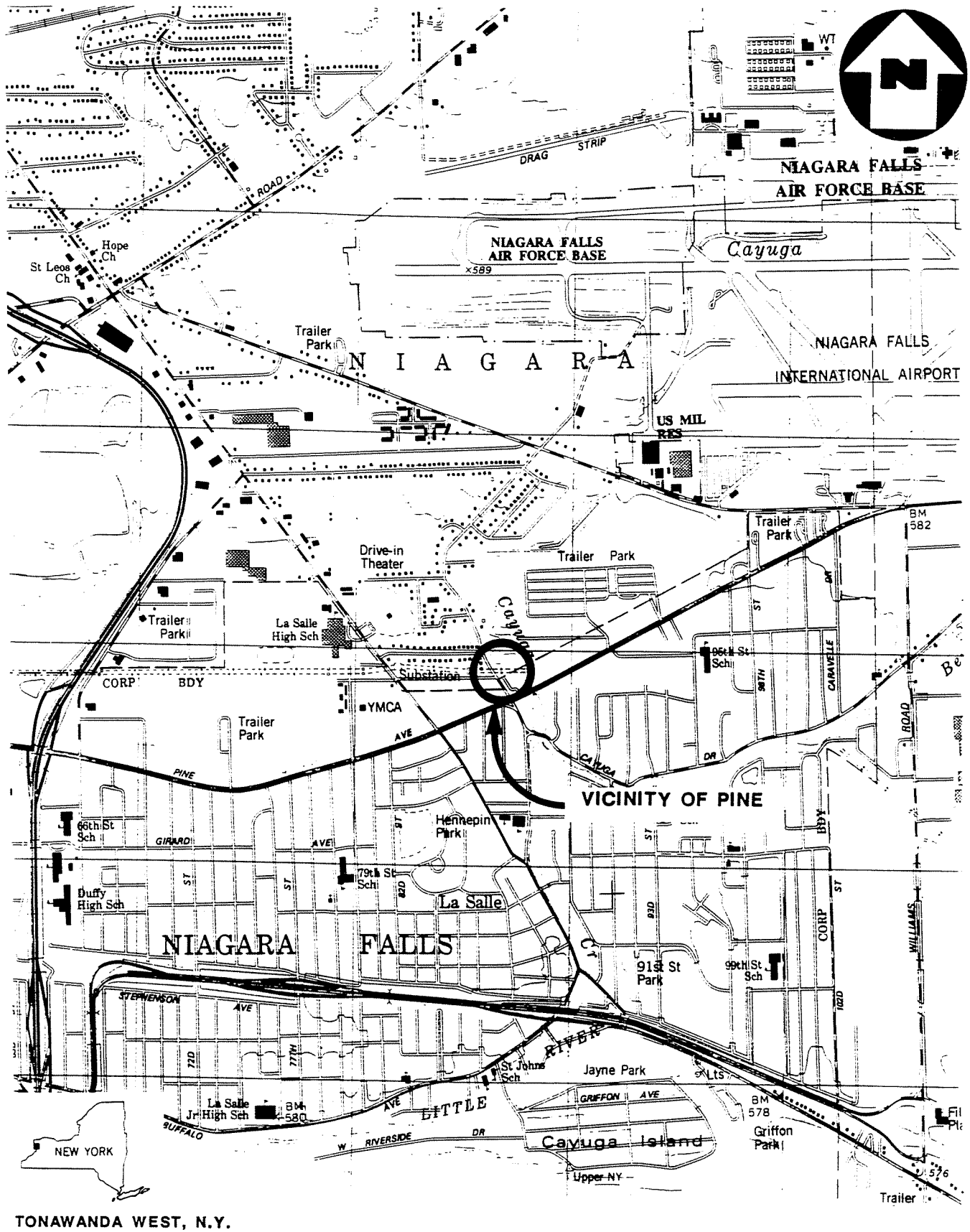
IV. COMMENTS

The CERCLA list gives the address as corner of Pine and Tuscarona Avenues. The off-site reconnaissance report indicates that the address is Tuscarora Road and Pine Avenue.

V. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

New York State Department of Health, New York State Atlas of Community Water System Sources, 1982.
General Sciences Corporation, Graphical Exposure Modeling Systems (GEMS). Landover, Maryland, 1986.
Telecon Note: Conversation between Mr. M. Hopkins, Niagara County Health Department, and P. Doherty, NUS Corp., 01/05/88.
NYSDEC memorandum from V. Bryant to B. Guilford (both of NYSDEC), Subject: Preliminary Assessment of Charles Gibson site, 02/11/81.

APPENDIX A
MAPS AND PHOTOGRAPHS

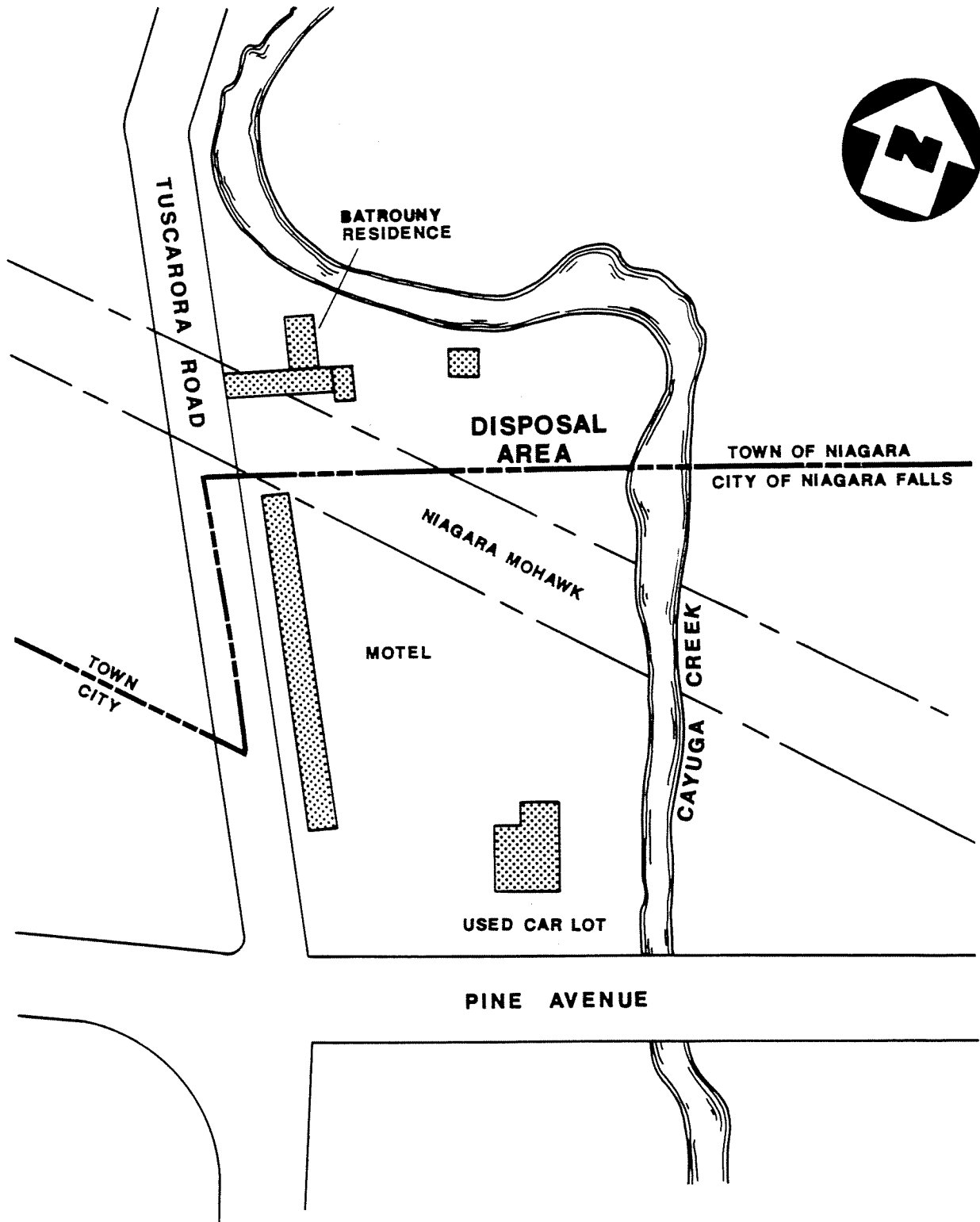


SITE LOCATION MAP
VICINITY OF PINE, NIAGARA, N.Y.

SCALE: 1" = 2000'

FIGURE 1





SITE MAP
VICINITY OF PINE, NIAGARA, N.Y.
(NOT TO SCALE)

PHOTOGRAPH LOG

VICINITY OF PINE
NIAGARA, NEW YORK

OFF-SITE RECONNAISSANCE: NOVEMBER 9, 1987

VICINITY OF PINE
NIAGARA, NEW YORK

PHOTOGRAPH INDEX

<u>Photo Number</u>	<u>Description</u>	<u>Time</u>
1P-1	View from Homestead Avenue looking southeast at the site.	1435
1P-2	View from Tuscarora Road looking east at the site .	1441
1P-3	View from Tuscarora Road looking northeast at the site.	1446

All photographs were taken by D. Restivo.

VICINITY OF PINE, NIAGARA, NEW YORK



1P-1

November 9, 1987

1435

View from Homestead Avenue looking southeast at the site.

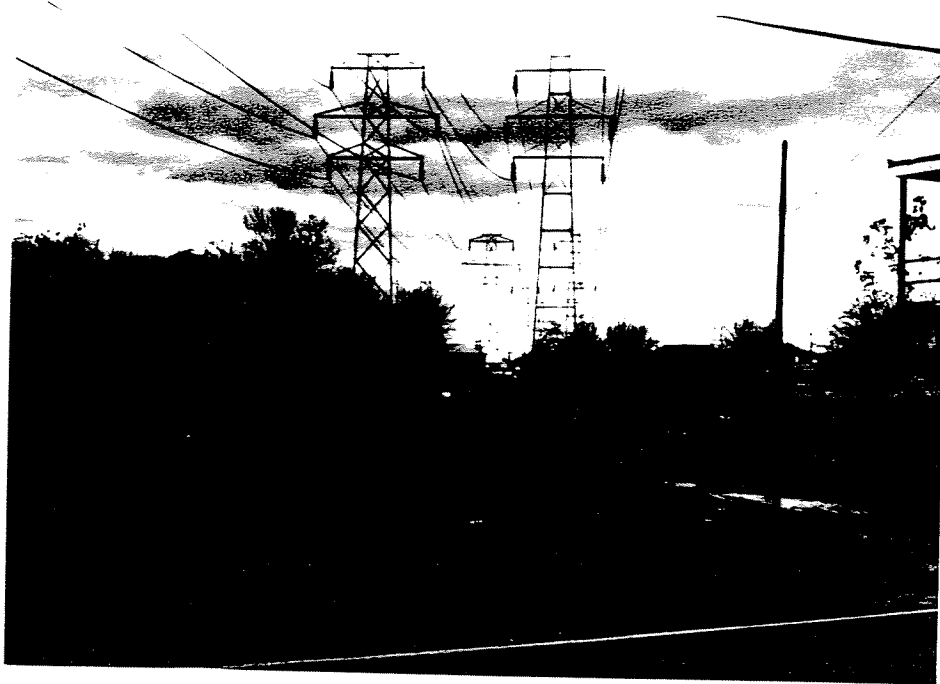


1P-2

November 9, 1987

1441

View from Tuscarora Road looking east at the site.



1P-3

November 9, 1987

1446

View from Tuscarora Road looking northeast at the site.

APPENDIX B
BACKGROUND INFORMATION

600 Delaware Avenue
Buffalo, New York 14202

November 6, 1981

RECEIVED

Myron B. Sokolowski, Esq.
Counsel-Chemicals Group
Olin Corporation
120 Long Ridge Road
Stamford, Connecticut 06904

NOV 13 1981

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF SOLID WASTE

Dear Mr. Sokolowski:

I am enclosing herewith the original and one photocopy of a proposed Order on Consent for Olin Corporation relative to the "Gibson Site," located at Pine Avenue and Tuscarora Road in Niagara County. The enclosure reflects the understanding reached between Olin and the Department of Environmental Conservation during discussions held in September and summarized in Ronald Tramontano's and my letters to you of last month.

After you have reviewed this document, I would appreciate your calling me with any comments that you may have on it. Since, in accordance with your request at our September 21st meeting, the draft Order specifies November 16, 1981 as the date for Olin's submission of the proposed work plan for the first phase of the site field investigation, I expect to hear from you early next week.

Very truly yours,



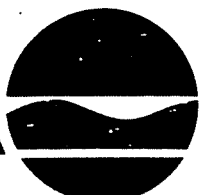
Barbara B. Guibord
Assistant Counsel

Encls.

Mailed by PUROLATOR COURIER

cc: John Greenthal, Esq.
Kevin Walter, P.E.
Vance Bryant
Edwin Perkins
Ronald Tramontano, P.E.

bcc: M. Peter Lanahan
Richard A. Persico
Irwin King
Eldred Rich
John Spagnoli
Norman Nosenchuck
Charles Goddard ✓
Ron Miller

**news**

File: Charles Gibson
Niag. Co.
Region 9
S.S.

ROBERT F. FLACKE, Commissioner

FOR RELEASE: IMMEDIATE, FRIDAY, SEPTEMBER 4, 1981

Olin Chemical Company has agreed to immediately begin developing a sampling program at a four-acre site in Niagara County once used by the company for disposal of hazardous wastes, Commissioner of Environmental Conservation Robert F. Flacke announced today.

In late 1957, the Commissioner said, Olin Chemical Company dumped 438 drums of hexachlorobenzene and covered them with 101 truckloads of BHC cake - isomers of hexachlorocyclohexane.

"This program is to determine to what extent these chemicals and others believed to have been disposed of at this site may present possible environmental or health concerns," Commissioner Flacke said.

"After extensive conversations with Olin Chemical, the company has agreed to expeditiously develop and implement a sampling program and site study," Commissioner Flacke declared.

"I welcome this commitment by Olin as a first step leading to cleanup of the site," Commissioner Flacke said. "Olin has assured DEC that it will assume responsibility for cleanup of any environmental hazards at the site attributable to its past practices."

In developing the site study, Olin will be working with DEC's Hazardous Waste Disposal Site Compliance Team.

The four-acre site lies partly in the City of Niagara Falls and partly in the Town of Niagara. It is bounded by Cayuga Creek on the east and north, Tuscarora Road on the west and Pine Avenue on the south.

-30-

SEP 10 1981
DEC
S.S.

CHARLES GIBSON SITE
Niagara Falls (T) Niagara County

Description and History
September 2, 1981

1. Discovery:

The site was identified by the Interagency Task Force and included in the June 1980 Hazardous Waste Disposal Site Inventory where it was classified B ((Detailed chemical analysis and/or hydrogeological survey is needed . . .)). The site was assigned to the Hazardous Waste Disposal Site Compliance Team in early 1981 and after detailed investigation and meetings with the company it was determined that they would not agree to voluntary investigation and remediation. Subsequently, the adjacent creek water and sediment was sampled on July 23, 1981 to develop evidence for hearing or litigation.

2. Who Dumped What, When:

Olin Chemical admitted to dumping 403 drums of hexachlorobenzene covered with 101 truckloads of BHC cake (alpha and beta isomers of hexachlorocyclohexane) over a short period of time in late 1957. It is suspected that additional quantity and/or types of waste may be present from Olin's manufacture of gamma-hexachlorocyclohexane (lindane) and 2,4,5-Trichlorophenoxy acetic acid.

3. Site Description:

The site consists of an area of approximately one acre bounded by Cayuga Creek on the east and north, Tuscarora Road on the west, and Pine Avenue on the south. On the northern half of the site is a single family home, the Batrouny residence. On the southern half of the site is a motel being used as an apartment house and a former restaurant being used as a used car lot/auto repair business. The southern half of the property also contains several junk automobiles. The area of suspected dumping includes the northeast portion of the site, along the Cayuga Creek, and the center of the site behind the motel/apartment.

SITE SKETCH

CHARLES GIBSON SITE
NIAGARA COUNTY

PREPARED BY
VANCE BRYANT 7/23/31

N
↑

CREEK

NOT TO SCALE

CAYUGA

HORSE SHOE
PITS

1 2 3 4 5 6 7

5

7 6

8 8

NIAGARA MOHAWK
POWER CORP.

TO
TOWN OF NIAGARA FALLS
CITY

VEGETABLE
GARDEN

HOUSE
PORCH
GARAGE
DRIVE

WISCONSIN ROAD

TOWN OF
CITY
TO
PINE AVE

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO:

02-8710-85

DATE:

January 5, 1988

TIME:

3:48 pm

DISTRIBUTION:

Vicinity of Pine

NYBT PA

BETWEEN:

M. Hopkins

OF:

Nia. County
Health Dept.

PHONE:

(716) 284-3128

AND:

P. Moriarty

(NUS)

DISCUSSION:

Surface water use - There may be some recreational fishing in the Creek however, There are advisories against fishing and swimming in the Cayuga Creek (because of Love Canal)

There are no storm drains in the area.

The "Auto sales" property is still commercially active.

There was no engineered containment system on the site.

ACTION ITEMS:

GW use - There are no users of groundwater within 1 or 2 miles.

CONTROL NO:

72-8710-85

DATE:

November 25, 1987

TIME:

835

DISTRIBUTION:

Vicinity of Pine

NYBT PA

BETWEEN:

Guy Baborsky

OF:

Albany-NYSDEC

PHONE:

(518) 457-4343.

AND:

D. Liberty

(NUS)

DISCUSSION:

Attorney General Office filed suit against Olin. Olin has entered into a stipulation agreement with the State.

A RIFS has been conducted. Currently deciding on the design of the remediation.

Mr. Baborski does not anticipate any clean up until 1988-89.

All work has been done by Olin.

ACTION ITEMS:



New York State Department of Environmental Conservation

MEMORANDUM

File: C. Gibson
 Map Co
 P.C. 7

TO: Barbara Guibord
 FROM: Vance Bryant *VB*
 SUBJECT: Charles Gibson Site - Preliminary Assessment

RECEIVED

DATE: February 11, 1981

FEB 13 1981

The following assessment is based upon the site inspection of January 22, 1981 and a review of available ^{soil, bedrock and ground-} water information. It is intended as a summary of general conditions in the subject area and as a potential starting point for a more detailed site investigation at such time as it is deemed appropriate. Further information may be available from the Niagara Mohawk Power Corp. and Texas Brine Corp. relative to excavations performed during installation and/or maintenance of their respective transmission lines through the site.

General

It was evident from the site inspection, review of tax maps and deeds and information supplied by Olin Chemical Corp. that the exact location of materials disposed of at the site by Olin has not been ascertained. It is imperative that, if at all possible, such information be obtained from present or former employees directly associated with such disposal, or from the previous owners of the site. Without such information, a "destructive" type investigation (borings, test pits, etc.) poses a potential threat to those persons conducting such investigation. If such information is not obtained, a preliminary non-destructive investigation by the seismic method may be warranted. Such method would provide an indication of subsurface materials, delineate the bedrock surface and indicate possible low points and/or channels in and by which potentially contaminated water could collect and/or be conveyed from the site.

Surface Conditions

The surface elevations in the general area of the subject site are approximately 570 to 572 feet above mean sea level. Cayuga Creek, which borders the site on the north and east, is about 5 to 7 feet lower in elevation at its surface, and is of unknown depth (to the writer).

The general site area has been repeatedly modified by various surface activities since the time of deposition of the chemicals in question. Such activities may have included excavations relative to the power transmission line and brine pipeline which traverse the site in an east-west direction. Fill activities have certainly taken place in the general area, as evidenced by the air photo supplied by Ron Tramontano of the Health Department and the piles of construction debris evident even through the snow cover. A more detailed and productive site inspection should be carried out in the spring when the snow cover is no longer present. In the interim, it is recommended

that a marker stake of some type be placed in Cayuga Creek or on the stream bank adjacent to the points where two natural circular breaks in the ice cover were noted, one prominent and one subtle (Glen Bailey is familiar with these features). It is possible that these locations are points of discharge of water from the subject site and therefore points at which to sample in the future. Any other similar occurrences which are noted in subsequent inspections by Compliance Team or other regional personnel should also be marked. In particular the east-west stretch of the creek north of the Batrouny property and also south to Pine Avenue should be examined in the near future for similar occurrences.

Geologic Conditions

The subject site is located within the basin of former glacial Lake Tonawanda. The soil is mapped as the Canandaigua Series in the Soil Survey of Niagara County, published in October of 1972 by the U.S. Department of Agriculture, Soil Conservation Service. This series consists of silty clay and silt loam (0 to 3 feet) over stratified loamy fine sand, silt and clay. The general depth to bedrock is greater than six feet and the depth to the seasonal high water table is 0 to 1/2 foot.

The water table beneath the site may be somewhat irregular due to the excavation and grading which has occurred at the site and the resultant variability in the natural soil, disturbed soil, and fill materials in place at the site. However, said water table is certainly directly related to the water level in Cayuga Creek, the most likely point of discharge for the zone of shallow groundwater located beneath the site. The groundwater in this shallow zone will migrate through the horizontal fine sand layers in the stratified lake deposits and, depending on the proximity of the bedrock surface, also through fractures in the upper layers of the bedrock toward the creek.

Bedrock underlying the site is most likely the upper layers of the Lockport Formation, of Silurian Age. This formation is brownish-gray to gray, medium grained, medium to thick bedded carbonate rock (dolostone - $\text{Ca,Mg}(\text{CO}_3)_2$). Commonly, the upper bedrock zone (top 10-15 feet) is fractured and jointed and readily transmits groundwater. This formation is also susceptible to solution by even mildly acidic waters, i.e. rainwater or surface waters containing SO_2 , NO_2 or CO_2 . Therefore, the openings are subject to widening by the groundwater moving through the fractured zone.

Specific details relative to geologic and hydrogeologic conditions can only be determined by progressing soil borings and by the installation of various monitoring devices such as lysimeters and piezometers. Likewise, samples for qualitative analyses can be obtained from such devices, as well as from shallow monitoring wells and from both water

and soil samples obtained directly from Cayuga Creek. A detailed site investigation plan can be developed after the information relative to the actual disposal area is obtained and a site inspection is conducted this spring.

cc: John Greenthal
Kevin Walter/Ed Perkins
Charles Goddard/Dave Knowles
Ron Tramontano

VB/ma



New York State Department of Environmental Conservation

MEMORANDUM

TO: Barbara Guibord
FROM: Vance Bryant VB
SUBJECT: Charles Gibson Site, Niagara County - Site Inspection and Preliminary Exploration
DATE: July 28, 1981

On July 23, 1981, ECO Douglas Layman of your office and the writer conducted a site inspection and preliminary investigation of subsurface conditions at selected points on the subject site. The nature of the inspection and investigation consisted of visual observations and exploratory holes progressed with a hand auger and post hole digger.

The site, i.e., that portion comprising the backyard of property presently owned by the Batrounys (formerly owned by William Charles Gibson and/or his wife), was initially observed for general conditions and layout. The area selected for exploration consisted of that portion of the yard to the east of the vegetable garden and beyond (south and east) of the horseshoe pits. Said location being on the inside of a bend in Cayuga Creek (see attached site sketch).

Upon arrival at the site we had noted that two (2) shovelfulls of earth had been turned over near the back (east) end of the property, approximately 15 to 20 feet from the creek bank. Both a black and white substance were observed in the earth, within several inches of the ground surface. The substances exhibited a strong chemical odor reminiscent of chemical herbicides and/or pesticides. With favorable wind conditions the odors were pervasive and could be detected off site. Mr. Batrouny reported that he had noticed the smell at other times but that he had attributed the odor to the creek. He also indicated that he had attempted to plant shrubs in the material three times, all unsuccessfully. He also mentioned difficulty in growing grass at several locations on the property.

Officer Layman and the writer progressed three holes from the location of the disturbed ground toward the creek bank as follows:

1. The first hole (hole #1) was located at the same location as the disturbed ground. This hole penetrated approximately two (2) inches of soil, six (6) inches of a black granular substance, and twenty eight (28) inches of a white powdery substance. The total depth of the hole was three (3) feet.

2. The second hole (hole #2) was progressed one-half way toward the creek bank from the first hole. This hole encountered one (1) foot of soil and then the white substance. None of the black substance was present in this hole. The total depth of the hole was approximately fifteen (15) inches.
3. The third hole (hole #3) was progressed at the upper edge of the stream bank in line with the first two holes. This hole encountered one and one-half (1 1/2) feet of soil and then the white substance. Again, none of the black substance was encountered.

A fourth hole (hole #4) was progressed down the bank of the creek at a point off line from the first three holes. This location was selected because of accessibility, i.e., the original choice of locations was covered with fill material consisting of large chunks of concrete and other material. This hole was progressed with difficulty to a depth of approximately one and one half (1 1/2) feet. The hole encountered mixed fill and soil materials with minor traces of possible chemical contaminants. No significant amounts or layers of either the black or white substance were noted at this location.

In addition to the four (4) holes already described, we attempted four (4) other holes as follows:

1. A shallow hole (hole #5) in a spot devoid of grass (see sketch). The white powder was encountered one (1) inch below the surface.
2. Two holes (holes #6 and #7) in areas devoid of grass and at the reported location of buried drums (see sketch). This area was extremely stoney and the holes could only penetrate one (1) foot. Traces of chemicals were noted and at the bottom of one hole a black asphaltic-like material was encountered.
3. A hole (hole #8) was progressed near the southern edge of the property in another area devoid of grass. This hole was progressed to a depth of approximately one (1) foot. In the bottom several inches of the hole we encountered a medium gray colored solidified substance similar to clay, but definitely not a natural soil material.

Barbara Guibord
Page 3
July 28, 1981

Samples of the various substances were taken from the holes, which were then filled in, in a sequence opposite to that in which they were progressed. The latter action was taken to minimize the amount of chemical material left on the ground surface.

cc: John Greenthal
Kevin Walter/Ed Perkins
Doug Layman
Ron Tramontano
Charles Goddard/Robert McCarty

VB/vs



New York State Department of Environmental Conservation

MEMORANDUM

TO: Barbara Guibord
FROM: Vance Bryant VB
SUBJECT: Chas. Gibson Site, Basic Field Investigation
DATE: June 23, 1981

RECEIVED
JUN 23 1981
BUREAU OF HAZARDOUS WASTE
DIVISION OF SOLID WASTE

In view of the reluctance of Olin, to date, to perform field investigations at the subject site and our need for further evidence as to the location and past and present behavior of the deposited wastes, the following alternatives for the scope of a basic field investigation are submitted for your consideration.

The sampling point locations discussed in the alternatives were determined from the tax map and from the reported location of the buried wastes on land presently owned by the Batrouneys. If the burial location extends to that property owned by Niagara Mohawk, south of the Batrouny property, the area covered by the field investigation may have to be expanded.

Alternative 1

1. Progress a boring or excavation to confirm the reported location of the buried wastes. This action could also be utilized to obtain samples of the material encountered for testing purposes. Precautions should be taken to protect the individuals performing this work and so as not to release any of the waste or existing contaminants into the environment.

If the wastes are located and determined to be hazardous, proceed with the following phases of the field investigation.

2. Obtain water samples from selected points and depths upstream, at various points "on-site", i.e., in the stream where it borders the Batrouny property, and downstream of the site.

3. Obtain sediment samples from selected points and depths along the stream at points upstream, on-site at various points along the stream bank, and downstream of the site.

4. Obtain air samples at points immediately over and in the vicinity of the reported disposal location.

5. Obtain vegetation samples at points immediately over and in the vicinity of the reported disposal location.

6. Conduct a benthic organism survey of the stream, including a chemical analysis of the benthic flora and fauna, to determine any toxic effects attributable to the site.

Barbara Guibord
Page 2
June 23, 1981

7. Depending upon the size of the area to be investigated, a boring should be progressed at the four corners and/or mid points of the sides of the disposal area, as estimated from information obtained previously. The boring should serve multiple purposes including:

- a. Determining the nature of the fill material;
- b. Determining the depth of fill;
- c. Obtaining samples of the natural soil beneath the fill for identification and for determinations of level of contamination, permeability, etc.;
- d. Determining the elevation of the water table;
- e. Acting as a monitoring well/piezometer;
- f. Acting as a sampling point for water quality determinations; and
- g. Determining a soil profile beneath the site and depth to bedrock.

Alternative 2

1. Obtain water and/or sediment samples as in Alternative 1.

2. Obtain ~~air and~~ vegetation samples as in Alternative 2.

3. Conduct a benthic organism survey as in Alternative 1.

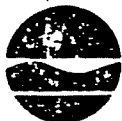
4. If such samples indicate problems directly associated with the site, reapproach Olin with the evidence and solicit their cooperation.

5. If Olin is cooperative, require them (through a Consent Order) to develop a more extensive investigation program for the Department's approval.

6. If Olin remains uncooperative, evaluate the strength of the evidence and decide if we can proceed to litigation. If not, expand our investigation program as in Alternative 1 (steps 1 and 7).

cc: John Greenthal
Kevin Walter/Ed Perkins
Charles Goddard/Bob McCarty ✓

VB/vs



FM Kathy please copy for [unclear] ENG *File in place for*

New York State Department of Environmental Conservation

MEMORANDUM

#932063

TO: Paul R. Counterman, Chief, Technology Section, Bureau of Hazardous Waste
 FROM: John E. Iannotti, Sanitary Engineer, Technology Section, Bureau of Hazardous Waste
 SUBJECT: Charles Gibson Site *Niagara County*
 DATE: November 1, 1979

This site was once used by the Olin Corporation and Information supplied to the Interagency Task Force on Hazardous Wastes indicated that during November 1957, 403 drums of hexachlorobenzene was deposited at this site and covered over with 101 truck loads of BHC cake.

On August 21, 1979, Mr. John Tygert and Ms. Patience Dowd conducted an inspection of the Charles Gibson Site at 8700 Pine Avenue (Intersection of Pine Avenue & Tuscarora Road) in the City of Niagara Falls. Another inspection was made by Mr. Peter Millock, Mr. John Iannotti, Mr. John Tygert and Ms. Patience Dowd on October 12, 1979. The following observations were made:

8700 Pine Avenue consists of a building parallel to Tuscarora Road. Apparently, it was originally utilized as a motel and is now used for transient housing of longer duration. The building extends approximately 700 feet north of Pine Avenue. Immediately east of the above referenced building is an open area for approximately 500 feet and a building currently utilized as a used automobile sales and used parts facility is located.

In an area approximately 400 feet north of Pine Avenue and about 700 feet east of Tuscarora Road, the collection of the surface soil changed and was lighter in color than the soil in the other areas immediately surrounding. Vegetation in this area, approximately $\frac{1}{2}$ acre in size, was extremely sparse. Approximately 200 feet east of the area, Cayuga Creek flows in a southerly direction.

A major potential problem with this site is migration of chemicals away from the site and into Cayuga Creek. Any contaminants in the Creek could show-up in samples of Cayuga Creek taken near the Love Canal.

Frank find out correct?

name for this site & file

Erie?

Niagara?

Page 2
Mr. Counterman

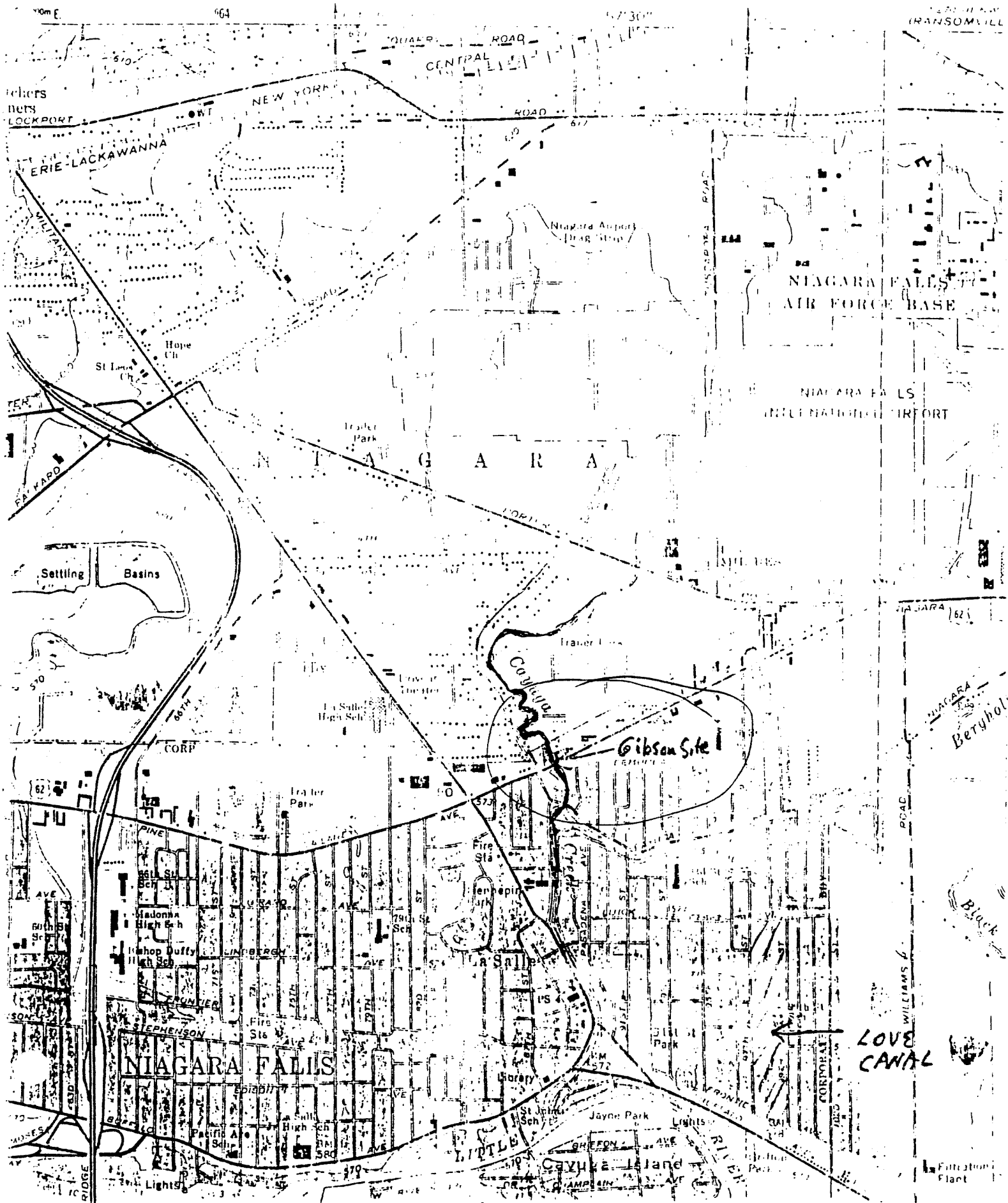
Soil samples in the projected affected area could be collected as well as samples of Cayuga Creek upstream and downstream of the alleged disposal area to determine actual effects on surface water quality in the area. In addition, since Olin has stated to the Task Force that a substantial number of barrels were buried in the area, soil borings and/or excavations with heavy equipment could verify the presence of drummed material.

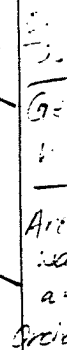
A map of Niagara Falls showing the location of the Gibson Site is attached.

Attachment

:gd

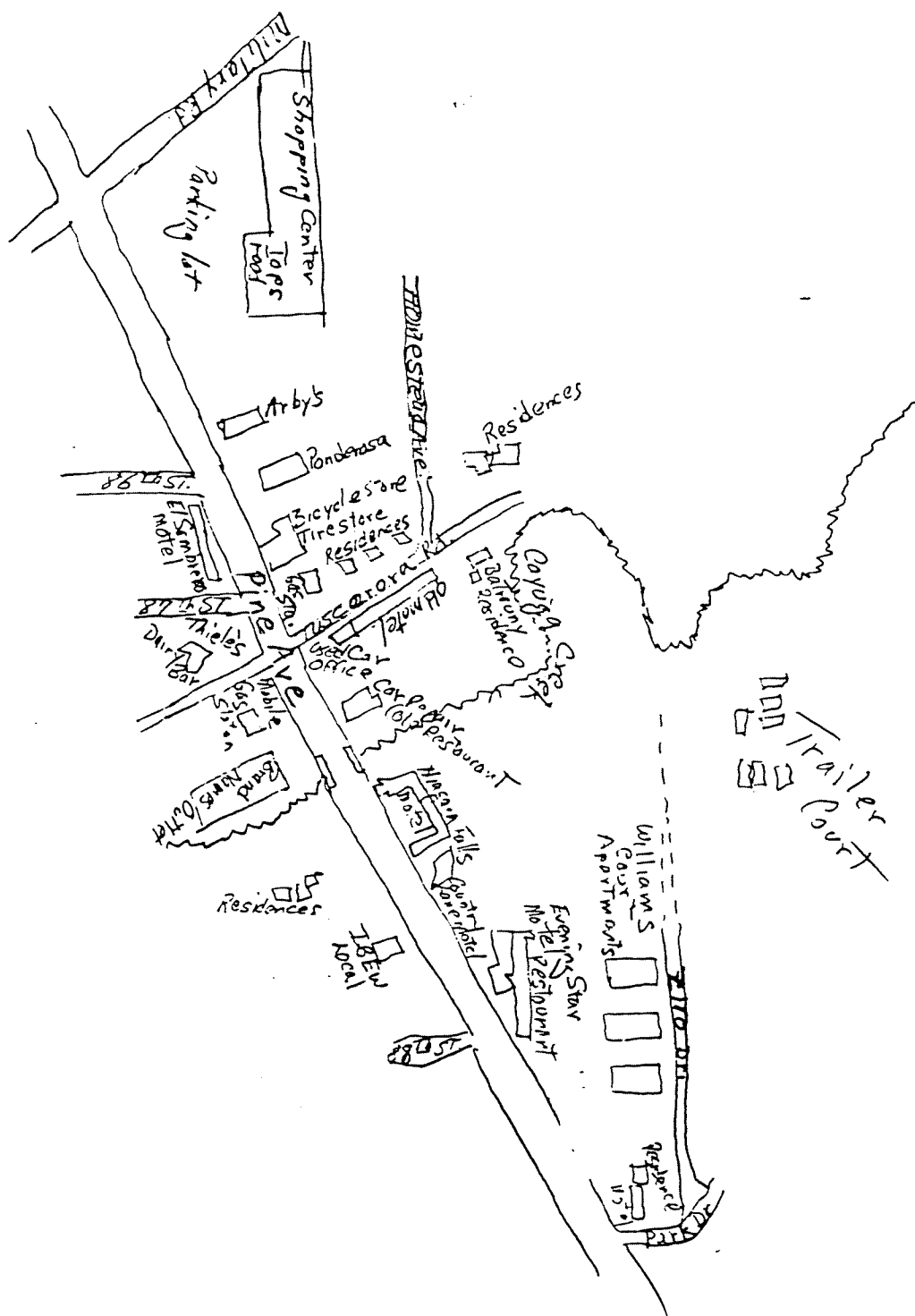
CHARLES Gibson SITE
8700 Pine Avenue

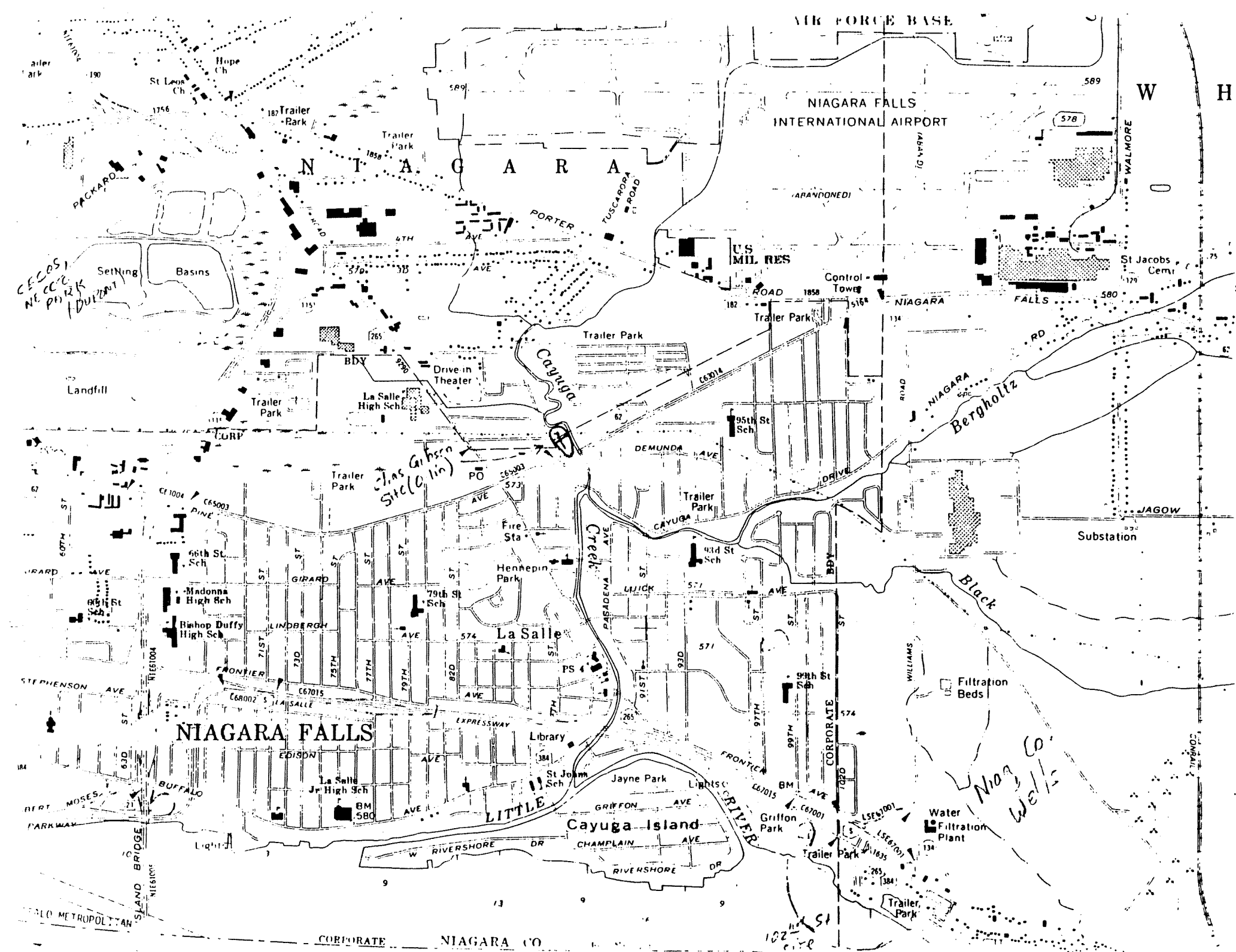




SCALE 1"=100'







In the Matter of the Development and
Implementation of a Field Investigation
and Remedial Program for an Inactive
Hazardous Waste Disposal Site, Under
Article 27, Title 13, of the Environ-
mental Conservation Law of the State of
New York (the "ECL") by

ORDER
ON
CONSENT

Index #927T1106

Olin Corporation,

Respondent

-X

WHEREAS:

1. The New York State Department of Environmental Conserva-
tion (the "Department") is responsible for the enforcement of
Article 27, Title 13, of the ECL entitled "Inactive Hazardous
Waste Disposal Sites".

2. Pursuant to Article 27, Title 13, of the ECL, whenever
the Commissioner of Environmental Conservation (the "Commissioner")
"finds that hazardous wastes at an inactive hazardous waste
disposal site constitute a significant threat to the environment,
he may order . . . any person responsible for the disposal of
hazardous wastes at such site (a) to develop an inactive hazardous
waste disposal site remedial program, subject to the approval of
the department, at such site, and (b) to implement such program
within reasonable time limits specified in the order."

3. Olin Corporation (the "Respondent") is, among other
things, a manufacturer of organic and inorganic chemicals, and
such corporation has been doing business in the County of Niagara,
State of New York, from about 1897 to the present.

4. In or about November, 1957, Respondent deposited, or caused to be deposited, among other things, 438 drums of hexachlorobenzene and 101 truckloads of hexachlorocyclohexanes on land described in Respondent's records as the "Gibson Property".

5. The "Gibson Property" consists of approximately four acres of land in the County of Niagara, which property is bordered on the south by Pine Avenue, on the west by Tuscarora Road, and on the north and east by Cayuga Creek (the "Site"). A graphic description of the Site is provided in a map, which is attached hereto as Appendix "A" and hereby made a part hereof.

6. Hexachlorobenzene and the gamma isomer of hexachlorocyclohexane are hazardous wastes, as that term is defined in Article 27, Title 13, of the ECL.

7. The Site has not been used for the disposal of hazardous waste by Respondent since about 1957.

8. The Site constitutes an inactive hazardous waste disposal site, as that term is defined in Article 27, Title 13, of the ECL.

9. Respondent and the Department acknowledge that the purposes of this Order shall be:

(a) To develop and implement a field investigation program, which program shall be conducted in two phases:

(1) The first phase of the field investigation program shall have the purposes of:

(i) Gathering data which will assist the State of New York in determining whether the Site poses a condition dangerous to the life and health of persons living and/or working at or in the vicinity of the Site; and

(ii) Determining the concentration of hazardous wastes and hazardous constituents, and toxic degradation products thereof, present at the Site, in order to establish a list of analytical parameters for the second phase of the field investigation program.

(2) The second phase of the field investigation program shall have the purposes of:

(i) Determining the areal extent and vertical distribution of hazardous wastes and hazardous constituents and toxic degradation products thereof, present at the Site;

(ii) Determining the existence and extent of migration of hazardous wastes and hazardous constituents, and toxic degradation products thereof, and contamination caused thereby, both on and off the Site; and

(iii) Determining the nature and extent of any present or potential impact on the environment of the hazardous wastes and hazardous constituents, and toxic degradation products thereof, at the Site; and

(b) To develop and implement, if so indicated by the results of the field investigation program, an inactive hazardous waste disposal site remedial program for any areas at and in the vicinity of the Site which have been contaminated or which may become contaminated as a result of the disposal of hazardous

wastes at the Site.

10. Respondent, in a spirit of cooperation and as a concerned and responsible corporate citizen of the State of New York, voluntarily consents to the issuing and entering of this Order, waives its right to a hearing herein, and agrees to be bound by the provisions, terms and conditions of this Order.

NOW, THEREFORE, having considered this matter and being duly advised, it is ORDERED that:

I. In order to fulfill the purposes of this Order, Respondent shall undertake a two-phase field investigation of the Site (the "Field Investigation").

II. The first phase of the Field Investigation shall include, but shall not necessarily be limited to, the following:

(a) The placement of twenty-four-hour air sampling stations at the center and around the perimeter of the Site and the analysis of air samples obtained therefrom prior to any site disturbance for the parameters hexachlorobenzene, hexachlorocyclohexane (alpha, beta, gamma and delta isomers), and total chlorinated organics;

(b) Indoor wipe samples, dust samples, air samples (including vapors and particulates), and water samples from basement sumps, from the buildings on the Site, including the house, motel, and used car lot office, all of which samples are to be obtained prior to any site disturbance and are to be analyzed for hexachlorobenzene and hexachlorocyclohexane (alpha, beta, gamma and delta isomers), except for the water samples from

basement sumps, which are to be analyzed for the parameters set forth in subdivision (iii) of subparagraph (d) of this Paragraph;

(c) Air sampling outside a minimum of six control houses located in the Niagara Falls area which are not at or in the vicinity of the Site, and indoor wipe samples, dust samples, air samples (including vapors and particulates), and water samples from basement sumps from the same houses, all of which samples are to be analyzed for hexachlorobenzene and hexachlorocyclohexane (alpha, beta, gamma and delta isomers), except for the water samples from basement sumps, which are to be analyzed for the parameters set forth in subdivision (iii) of subparagraph (d) of this Paragraph; and

(d) An investigation to determine the concentration of the hazardous constituents and toxic degradation products of hazardous wastes present at the Site, by means of the analysis of soil/waste and ground water samples which are to be taken from borings progressed and monitoring wells installed at selected locations on the Site and identified on a grid system established on a plot plan of the Site, which plot plan shall be attached hereto as Appendix "B" and thereby made a part hereof. Samples for analysis shall be obtained and analyzed as follows:

(i) Each soil/waste sample shall be taken from borings progressed on the Site, which borings shall penetrate the ground to a depth of eight feet. Each sample shall consist of a composite of materials obtained from within each boring. Precautions shall be taken to prevent cross-contamination between

borings;

(ii) Ground water samples shall be taken from monitoring wells installed at locations within and at the perimeter of the Site;

(iii) Soil/waste samples and ground water samples shall be analyzed for parameters including the priority pollutants as contained in the listing of "Toxic Pollutants" promulgated by the United States Environmental Protection Agency and listed in 40 CFR 401.15, and for 1,2,3,4-tetrachlorobenzene, 1,2,4,5-tetrachlorobenzene, pentachlorobenzene, pentachloronitrobenzene, and 2,4,5-trichlorophenoxy acetic acid; and

(iv) Ambient air sampling shall be performed on the Site during the progression of the soil borings, the installation of the monitoring wells and the collection of soil/waste samples. Such air samples shall be analyzed for the parameters hexachlorobenzene, hexachlorocyclohexane (alpha, beta, gamma and delta isomers), and total chlorinated organics.

III. The second phase of the Field Investigation shall include, but shall not necessarily be limited to, the following:

(a) An investigation of the areal extent and vertical distribution of hazardous wastes and hazardous constituents, and toxic degradation products thereof, at the Site. Such investigation shall result in the preparation of a map showing the location and concentration of such wastes, constituents and degradation products. Soil borings shall be progressed at regular intervals, and shall be identified on the grid system referred to in subparagraph (d) of Paragraph II hereof. A visual examination and chemical analysis shall be performed on all samples obtained from the borings;

(b) An investigation into the existence and extent of migration of hazardous wastes and hazardous constituents, and toxic degradation products thereof, and contamination caused thereby, both on and off the Site. This investigation shall include, at a minimum, periodic sampling and analysis for the duration of at least one year of: ground water from the monitoring wells Respondent will have installed during the first phase of the Field Investigation at locations within and at the perimeter of the Site; surface water from Cayuga Creek between the point of confluence of Cayuga Creek and Tuscarora Creek and the point of confluence of Bergholtz Creek and Cayuga Creek; and ambient air at and in the vicinity of the Site, including during periods of site disturbance. Additionally, this investigation shall include the sampling and analysis of sediment from that portion of Cayuga Creek where Respondent is to sample surface water. The precise sediment sampling locations shall be selected on the basis of a sediment depth map to be prepared by Respondent. The results of Respondent's investigation as set forth in this subparagraph shall be reported to the Department quarterly during the period of the investigation. Based on the results of the first quarterly report, Respondent shall assess the need for additional ground water monitoring wells, additional soil borings, and/or additional surface water, sediment and air sampling stations, which assessment shall be subject to the written approval of the Department; and

(c) An investigation into any present or potential impact on the environment of the hazardous wastes and hazardous constituents, and toxic degradation products thereof, at the Site.

IV. By no later than November 16, 1981, Respondent shall submit to the Department a written proposed work plan for the first phase of the Field Investigation, detailing the actions Respondent proposes to undertake to fulfill the requirements of Paragraph II hereof (the "First Proposal"). In addition, the First Proposal shall provide, among other things, a description of the actions Respondent proposes to undertake, during the first phase of the Field Investigation, to prevent unauthorized access to the Site and to insure the safety of persons in the vicinity of the Site and details of the procedures and protocols that Respondent proposes to use for installation of the monitoring wells; the drilling of soil borings; air, indoor, soil/waste and ground water sample collection; sample preservation; sample transportation; chain of custody methods; and analytical methods.

V. The Department, in conjunction with the New York State Department of Health, shall have the right of approval and disapproval of the First Proposal.

VI. Within thirty days after receipt of the First Proposal, the Department shall issue its approval or disapproval. If the Department finds that the First Proposal fails to meet, or is inconsistent with, the requirements of the Department, the Department shall disapprove the First Proposal. In such an event, the Department may modify the First Proposal to include plans, specifications, procedures, protocols and other actions which meet said requirements. The First Proposal, either as approved by the Department in the form in which it was submitted to the Department-by Respondent or as modified by the Department to meet

its requirements (the "Approved First Proposal"), shall become incorporated into this Order, and shall be attached hereto as Appendix "C" and thereby made a part hereof.

VII. Within fifteen days after receipt of notification of, and a copy of, the Approved First Proposal from the Department, Respondent shall commence implementation of the first phase of the Field Investigation, in accordance with the Approved First Proposal.

VIII. The first phase of the Field Investigation, as described in the Approved First Proposal, shall be completed, and a report on the results thereof (the "Phase One Report") submitted to the Department and to the Commissioner of Health of the State of New York, by no later than January 29, 1982.

IX. Upon receipt and review of the Phase One Report, the Department shall make a determination, to be transmitted in writing to Respondent prior to Respondent's implementation of the second phase of the Field Investigation, as to which parameters shall be analyzed for during the second phase of the Field Investigation. Said determination shall be based upon the following criteria:

(a) All soil/waste analytical parameters with results from the first phase of the Field Investigation which indicate a concentration of greater than or equal to ten micrograms per kilogram; and

(b) All ground water analytical parameters with results from the first phase of the Field Investigation which indicate a concentration of greater than or equal to one microgram per liter.

If the analysis of any sample obtained by Respondent during the first phase of the Field Investigation reveals parameters with concentrations equaling or exceeding the levels set forth in either (a) or (b) above, then all samples obtained from all media, except air, during the second phase of the Field Investigation shall be analyzed for those parameters. Air samples obtained during the second phase of the Field Investigation shall be analyzed for the parameters hexachlorobenzene, hexachlorocyclohexane (alpha, beta, gamma and delta isomers), and total chlorinated organics. The list of analytical parameters that must be included in the second phase of the Field Investigation shall become incorporated into this Order, and shall be attached hereto as Appendix "D" and thereby made a part hereof.

X. Within thirty days after Respondent's receipt of the Department's written determination of the parameters to be analyzed for during the second phase of the Field Investigation, as set forth in Paragraph IX hereof, Respondent shall submit to the Department a written proposed work plan for the second phase of the Field Investigation, detailing the actions Respondent proposes to undertake to fulfill the requirements of Paragraph III hereof (the "Second Proposal"). The Second Proposal shall provide, among other things, a description of the actions Respondent proposes to undertake, during the second phase of the Field Investigation, to prevent unauthorized access to the Site and to insure the safety of persons in the vicinity of the Site and details of the proposed location of and the proposed procedures and protocols for the following: (a) the installation of monitoring

wells, if any; (b) the drilling of soil borings; (c) the sampling of soil/waste and ground water, including the number and type of samples; (d) the ambient air monitoring during and after periods of site disturbance; and (e) the sampling of water and sediment from Cayuga Creek.

XI. The Department shall have the right of approval and disapproval of the Second Proposal.

XII. Within sixty days after receipt of the Second Proposal, the Department shall issue its approval or disapproval. If the Department finds that the Second Proposal fails to meet, or is inconsistent with, the requirements of the Department, the Department shall disapprove the Second Proposal, and shall state, in writing, the specific reasons for such disapproval. Within thirty days after receipt of such disapproval, Respondent shall revise the Second Proposal to bring it into conformity with the requirements of the Department, and shall submit such revision to the Department. If, upon review of such revised work plan proposal for the second phase of the Field Investigation (the "Revised Second Proposal"), the Department still finds that it fails to meet, or is inconsistent with the requirements of the Department, the Department may modify the Revised Second Proposal to include plans, specifications, procedures, protocols and other actions which meet said requirements and which shall be binding on Respondent in carrying out the second phase of the Field Investigation. The approved work plan for the second phase of the Field Investigation (the "Approved Second Proposal") shall become incorporated into this Order, and shall be attached hereto as Appendix "E" and thereby made a part hereof.

XIII. Within thirty days after receipt of notification of, and a copy of, the Approved Second Proposal from the Department, Respondent shall commence implementation of the second phase of the Field Investigation, in accordance with the Approved Second Proposal.

XIV. Within thirty days after completion of the Field Investigation, Respondent shall submit to the Department a report on the second phase of the Field Investigation, the purpose of which shall be to provide the data, and a comprehensive assessment thereof, resulting from the second phase of the Field Investigation (the "Phase Two Report").

XV. The Department shall have the right to obtain "split samples" of all substances and materials sampled by Respondent in the course of the Field Investigation. As used herein, "split samples" shall mean whole samples divided into aliquots, to be tested by the Department for the purpose of comparative analysis.

XVI. At any time during the course of or after completion of the Field Investigation or after review of the Phase Two Report, the Department may make a determination of whether the Site poses a significant threat to the environment. The Department shall base any such determination upon its evaluation of the following criteria:

(a) The concentration of the parameters tested for, as detected in the samples of soil/waste, ground water, air, surface water and sediment analyzed by Respondent and/or the Department;

(b) The degree of any toxicity exhibited by the wastes detected in the samples of soil/waste, ground water, air, surface water and sediment analyzed by Respondent and/or the Department, by the constituents of said wastes, and by any toxic degradation products of said wastes or their constituents;

(c) The tendency of any of the substances set forth in subparagraph (b) of this Paragraph to bioaccumulate in fish and/or wildlife;

(d) The concentration of any of the substances set forth in subparagraph (b) of this Paragraph in relation to New York State ground water standards, as embodied in Part 703 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York;

(e) The concentration of any of the substances tested for in the air sampling conducted pursuant to this Order in relation to the concentration in air recommended by the American Conference of Governmental Industrial Hygienists; and

(f) The means by which any of the substances set forth in subparagraph (b) of this Paragraph have been released, are being released or may be released into the environment, or have migrated, are migrating or may migrate from the Site.

XVII. If the Department determines that the Site constitutes a significant threat to the environment, the Department shall notify Respondent, in writing, of its determination. Respondent shall then be required to develop and implement an inactive hazardous waste disposal site remedial program at the Site (the "Remedial Program").

XVIII. Within one hundred and twenty days after receipt of notification of any such determination of the Department as set forth in Paragraph XVII hereof, Respondent shall submit in writing to the Department, a proposed inactive hazardous waste disposal site remedial program plan, which shall consist, among other things, of an engineering study, outlining various remedial options for the Site, the reasons for the rejection of remedial options not selected, the reasons for the selection of the remedial option Respondent proposes to undertake to implement the Remedial Program, and a description of proposed long-term monitoring and maintenance activities (the "Proposed Plan").

(a) The selection of the remedial option that Respondent proposes to undertake to implement the Remedial Program shall be based on the application of the standard of Requisite Remedial Technology. As used herein, "Requisite Remedial Technology" shall mean engineering and construction practices which will most effectively protect the public health and the environment by the identification, abatement, mitigation and cleaning up of any contamination at the Site and in the vicinity thereof.

(b) As used herein, "monitoring" means those activities undertaken by Respondent to measure the effectiveness and condition of the Remedial Program, and to ascertain whether hazardous wastes or hazardous constituents, or toxic degradation products thereof, are being released or are migrating from the Site. As used herein, "maintenance" means those routine activities undertaken by Respondent to insure the continued efficacy of the Remedial Program.

XIX. The Department shall have the right of approval and disapproval of the Proposed Plan.

XX. Within sixty days after receipt of the Proposed Plan, the Department shall issue its approval or disapproval. If the Department finds that the Proposed Plan fails to meet, or is inconsistent with, the requirements of the Department, the Department shall disapprove the Proposed Plan, and shall state, in writing, the specific reasons for such disapproval. Within thirty days after receipt of such disapproval, Respondent shall revise the Proposed Plan to bring it into conformity with the requirements of the Department, and shall submit such revision to the Department. If, upon review of such revised inactive hazardous waste disposal site remedial program plan proposal (the "Revised Plan"), the Department still finds that it fails to meet, or is inconsistent with the requirements of the Department, the Department may modify the Revised Plan to include plans, specifications, procedures, protocols and other actions which meet said requirements and which shall be binding on Respondent in carrying out the Remedial Program. The approved inactive hazardous waste disposal site remedial program plan (the "Approved Plan") shall become incorporated into this Order, and shall be attached hereto as Appendix "F" and thereby made a part hereof.

XXI. Within thirty days after receipt of notification of, and a copy of, the Approved Plan from the Department, Respondent shall submit to the Department written plans and specifications for implementing the Remedial Program in accordance with the Approved Plan.

XXII. The Department shall have the right of approval and disapproval of the plans and specifications described in Paragraph XXI hereof.

XXIII. The Department shall approve or disapprove the plans and specifications described in Paragraph XX hereof within thirty days of their receipt by the Department and in accordance with the procedures set forth in Paragraph XX of this Order.

XXIV. At the time of its execution of this Order, Respondent shall pay to the Department a sum of money which shall have been determined by the Department and which represents:

(a) Restitution to the Department for the expenses incurred by the Department in investigating the conditions at the Site and in issuing this Order to Respondent; and

(b) Restitution to the Department for the expenses estimated by the Department to be incurred by it in connection with all of the Department's future activities associated with the Site, including, but not limited to, expenses to be incurred for:

(i) Review of all documents submitted by Respondent in connection with the Field Investigation and the Remedial Program;

(ii) Supervision of the implementation of the Field Investigation and the Remedial Program, including, among other things, inspection of the construction and the monitoring and maintenance activities associated with the Remedial Program; and

(iii) Legal activities, as necessary, relating to this Order.

XXV. Notwithstanding any of the provisions of this Order to the contrary, the Department reserves the right to pursue any relief it deems necessary, including, but not limited to, the initiation of legal proceedings to compel Respondent to perform all work required pursuant to this Order, in the event that Respondent fails to comply with any provision of this Order. Further, the Department reserves the right to pursue whatever relief it deems necessary, including; but not limited to, requiring additional remedial work at the Site and/or imposing any penalty provided by law, in the event that any contamination of the environment or violation of law attributable to Respondent, not otherwise covered by this Order, is discovered at the Site.

XXVI. Upon the effective date of this Order, Respondent shall post or deposit with the Department a financial undertaking in cash, certified check or other equivalent negotiable instrument, in a form acceptable to the Department, or a surety bond issued by a company licensed to do business in the State of New York, in a form acceptable to the Department, in the amount of \$100,000, to assure compliance with this Order and with all appendices attached hereto. Such financial undertaking or surety bond shall provide that should Respondent at any time fail to fulfill any of the requirements of this Order or the appendices hereto, Respondent or the surety, as the case may be, shall, upon demand by the Department, pay over to the Department a sufficient portion of said amount to procure substitute performance of all such requirements as then remain unfulfilled. Such financial undertaking or surety bond shall also provide that if the surety to any financial

~~undertaking~~ (including, but not limited to, a surety bond) furnished pursuant to this Paragraph, or Respondent, advise the Department that said surety is cancelling or taking any action to reduce, diminish or impair its obligations pursuant to such undertaking, then Respondent shall, within 24 hours of notification of such surety's intention, furnish to the Department a new financial undertaking in the sum of \$100,000, in accordance with the prior provisions of this Paragraph.

XXVII. Nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting: (a) any legal or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against anyone other than Respondent, or (b) the Department's right to bring actions or proceedings of any kind with respect to areas or resources that may have been affected or may be affected in the future as a result of a release or migration of hazardous wastes or hazardous constituents, or toxic degradation products thereof, or contamination derived therefrom, from the Site.

XXVIII. Respondent shall obtain, on a timely basis, all permits, easements, rights-of-way, rights-of-entry, approvals or other authorizations which are necessary to carry out any of Respondent's obligations pursuant to this Order. Respondent shall promptly notify the Department in the event of Respondent's inability to obtain any such authorizations on a timely basis.

XXIX. Respondent shall permit any duly designated officer, employee, consultant, contractor or agent of the Department to enter upon the Site to make or cause to be made such tests as are

determined by the Department to be necessary, and to ascertain Respondent's compliance or non-compliance with this Order.

XXX. The provisions of this Order and any actions or submissions under or by reason of the provisions of this Order, shall not, in any action or proceeding or litigation whatsoever, whether or not brought by the Department, constitute or be construed as an adjudication or finding on any issue, or be construed as, or operate as, an admission that Respondent has violated any law or regulation or otherwise committed a breach of duty at any time.

XXXI. Respondent shall not be in default or violation of this Order if Respondent is unable to comply with any provision of this Order because of the action of a national or local government body or court, an act of God, strike, riot or catastrophe as to any of which negligence or willful misconduct on the part of Respondent was not the proximate cause. Respondent shall apply to the Department in writing immediately upon obtaining knowledge of such an event and request an appropriate modification of this Order.

XXXII. If, for any reason, Respondent desires that any provision of this Order be changed, Respondent shall make timely written application therefor to the Commissioner, setting forth reasonable grounds for the relief sought.

XXXIII. The effective date of this Order shall be the date this Order is signed by the Commissioner or his designee.

XXXIV. All reports and submissions required by this Order shall be made to the Hazardous Waste Disposal Site Compliance Team, New York State Department of Environmental Conservation, 600 Delaware Avenue, Buffalo, New York 14202 and to the Commissioner of Health, New York State Department of Health, Empire State Plaza, Tower Building, Albany, New York 12237. Copies of all such documents shall be sent to the Hazardous Waste Disposal Site Compliance Team, New York State Department of Environmental Conservation, 50 Wolf Road, Albany, New York 12233-0001.

XXXV. All submissions concerning the Remedial Program, if any, shall be made to the Remedial Action Section, Bureau of Hazardous Site Control, Division of Solid Waste, New York State Department of Environmental Conservation, 50 Wolf Road, Albany, New York 12233-0001, with copies of all such documents to be sent to the Hazardous Waste Disposal Site Compliance Team, New York State Department of Environmental Conservation, 600 Delaware Avenue, Buffalo, New York 14202, and to the Commissioner of Health, New York State Department of Health, Empire State Plaza, Tower Building, Albany, New York 12237.

XXXVI. Respondent shall indemnify and hold the Department, the State of New York and their representatives and employees harmless from all claims, suits, actions, damages, and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of the provisions of this Order by Respondent, its officers, directors, employees or agents.

XXXVII. The provisions of this Order shall be deemed to bind Respondent, its officers, directors, agents, employees, successors and assigns, and all persons, firms and corporations acting by or for Respondent.

Dated: Albany, New York

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

By: _____

TO: Olin Corporation

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of the foregoing Order, waives its right to a hearing herein as provided by law, and agrees to be bound by the provisions, terms and conditions contained herein.

OLIN CORPORATION

By: _____

Title: _____

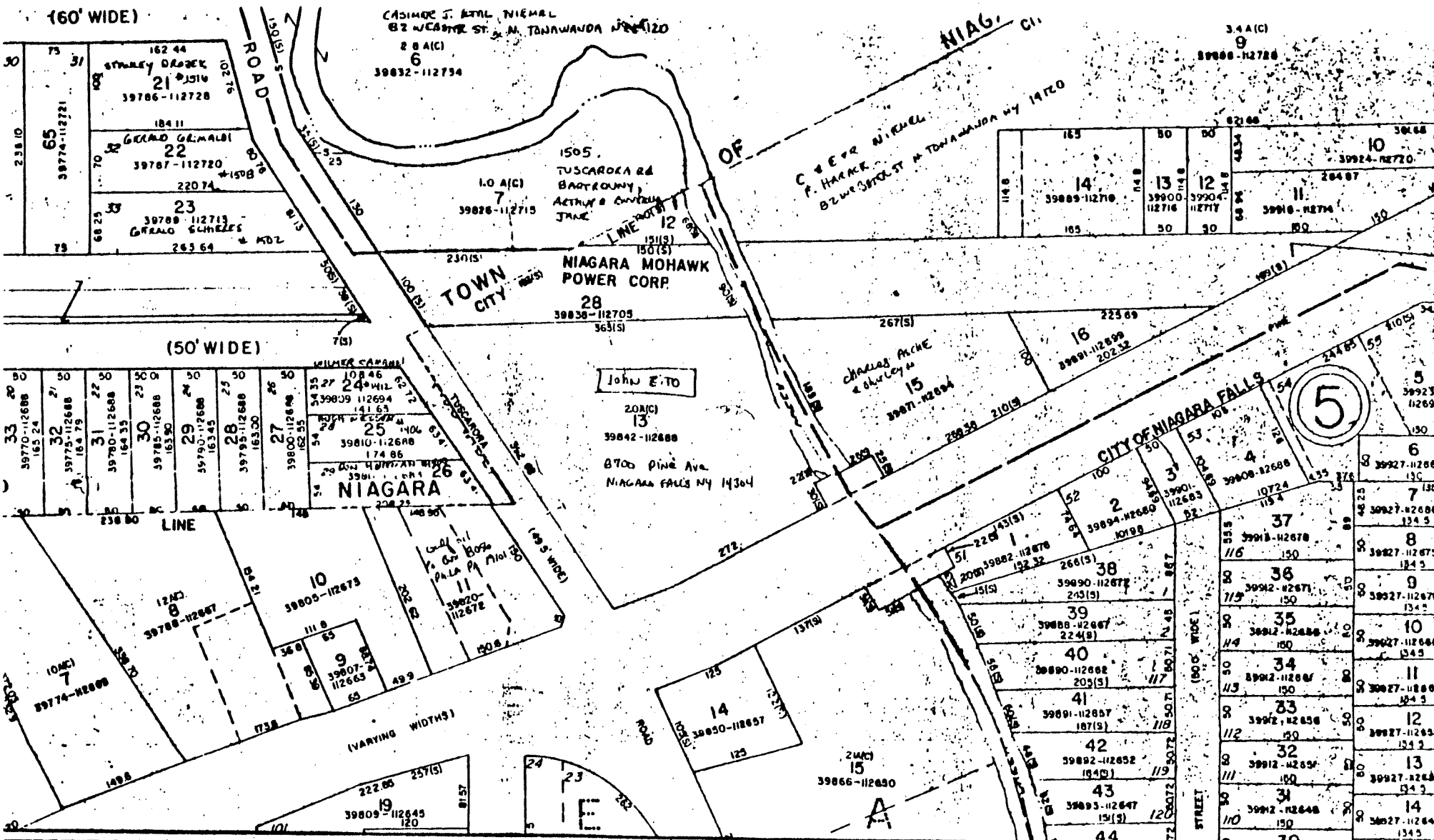
Date: _____

STATE OF)
COUNTY OF) ss.:
)

On this _____ day of _____, 1981, before me personally came _____, to me known, who, being by me duly sworn, did depose and say that he resides in _____; that he is the _____ of _____, the corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

NOTARY PUBLIC

(160' WIDE)



LEGEND

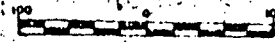
LINE	TOWN LINE	FIRE DISTRICT LINE	GREAT LOT NO
IT LINE	VILLAGE OR CITY LINE	DENOTES COMMON OWNER	CALCULATED ACREAGE 75 A (C)
DT	BLOCK LIMIT		DEED ACREAGE 175 A
GROUND BODY	GREAT LOT LINE	TAX MAP BLOCK NO	SCALED DIMENSION 225 (S)
	SCHOOL DISTRICT LINE	TAX MAP PARCEL NO	DEED DIMENSION 173.2
	WATER DISTRICT LINE	FILED PLAN LOT NO	COORDINATE LOCATOR 87713-10771

150.08	161.06
160.12	161.09
161.10	

SHEET INDEX

TAX MAP
CITY OF NIAGARA FALLS

NIAGARA COUNTY, NEW YORK



GRAPHIC SCALE

APPENDIX A

VICINITY OF PINE

Lat: 43°05'32"N

Long: 78°57'44"W

Data List of Dataset: NYCD

Number of Records = 6

REC #	POP	HOUSE	DISTANCE	SECTOR
1	0	0	0.400000	1
2	4352	1652	0.810000	1
3	9090	3006	1.600000	1
4	13865	5084	3.200000	1
5	12891	4339	4.800000	1
6	25026	9618	6.400000	1

65224

PRELIMINARY ASSESSMENT
OFF SITE RECONNAISSANCE
INFORMATION REPORTING FORM

Date: 11/9/87

Site Name: Vicinity of Pine TDD: 02-8710-85

Site Address: Pine and Tuscarora Ave.
Street, Box, etc.

Niagara Falls
Town

Niagara
County

New York
State

NUS Personnel:	Name	Discipline
	<u>Bob Nies</u>	
DE 11/5/87	<u>Gerry Gilliland</u>	<u>Geologist</u>
	<u>Donna Restivo</u>	<u>Toxicologist</u>

Weather Conditions (clear, cloudy, rain, snow, etc.):

cloudy, cool

Estimated wind direction and wind speed: NA

Estimated temperature: 40-45

Signature: Robert L. Nies Date: 11/9/87

Countersigned: Donna J. Restivo Date: 11/9/87

PRELIMINARY ASSESSMENT
INFORMATION REPORTING FORM

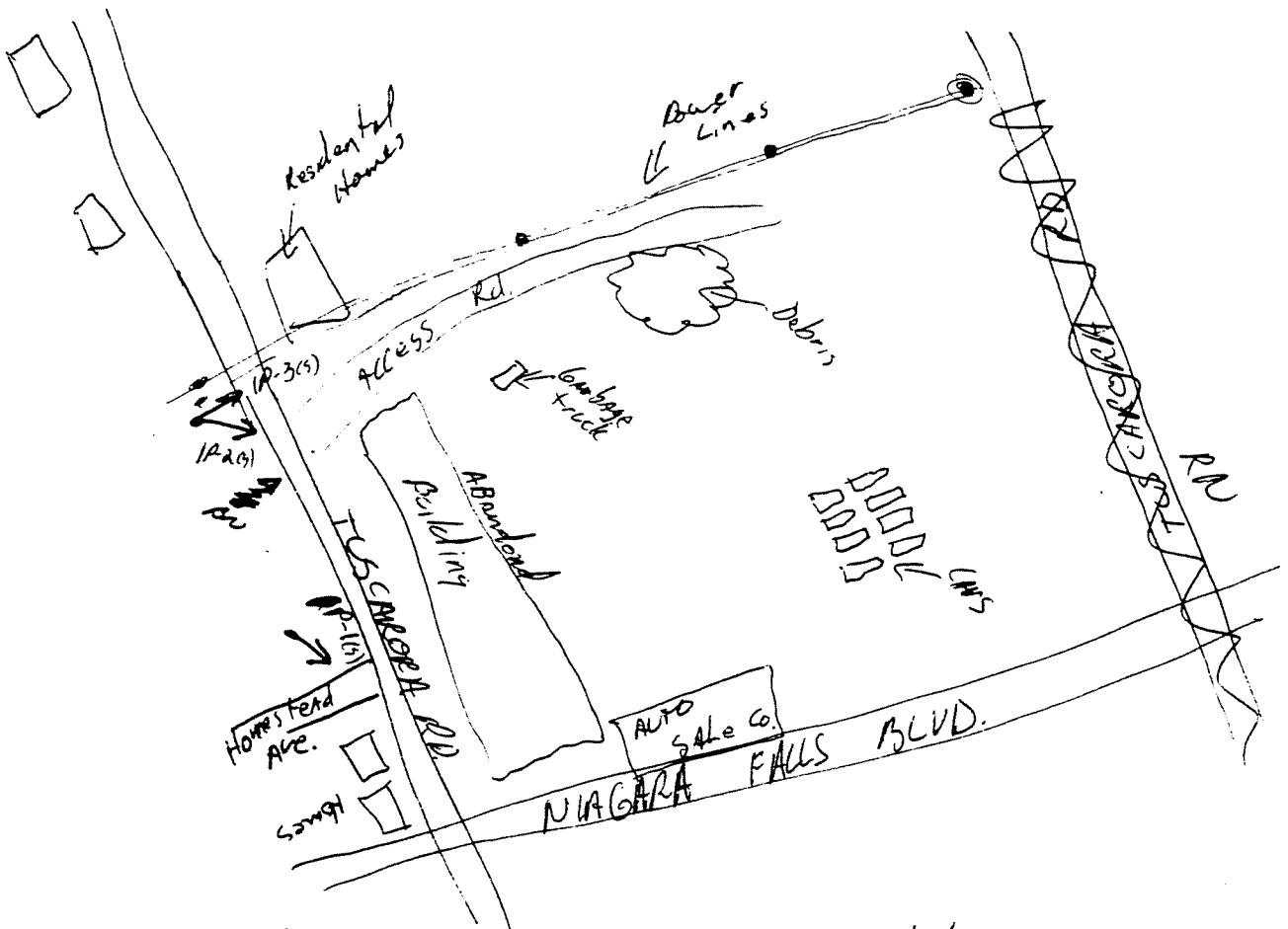
Date: 11/9/87

Site Name: Vicinity of Pine

TDD: 02-8710-85

Site Sketch:

Indicate relative landmark locations (streets, buildings, streams, etc.).
Provide locations from which photos are taken.



Signature: Robert E. Hines

Date: 11/9/87

Countersigned: Donna J. Pestwio

Date: 11/9/87

PRELIMINARY ASSESSMENT
INFORMATION REPORTING FORM

Date: 11/9/87Site Name: Vicinity of PineTDD: 02-8710-85

Notes (Periodically indicate time of entries in military time):

1430: arrived at site
Donna taking pictures of site.

The property has an abandoned building
along Tucarcara rd. with an access rd
just beyond the northern extent of the building.
Some debris is located in the back of the
access rd. Old cars are also present on site.
Debris appears to be old appliances. No sewers
^{RM} ~~sewers~~ are present are present on the roads.
There is a wooded area in the back, north of
the access road. ^{at intersection of rd} Cuyaya creek is flowing
southward just north of the site. There
was no evidence that stated this was definitely
the site on the CERCLAS list.

Signature: Robert J. Nijp
Countersignature: Donna J. RestroDate: 11/9/87
Date: 11/9/87

PRELIMINARY ASSESSMENT
INFORMATION REPORTING FORM

Date: 11/9/87

Site Name: Vicinity of Pine TDD: 02-8710-85

Photolog:

Frame/Photo Number	Date	Time	Photographer	Description
<u>1P-1(s)</u>	<u>11/9</u>	<u>1435</u>	<u>P. Restivo</u>	<u>view off of Homestead</u> <u>ave looking SE at site.</u>
<u>1P-2(s)</u>		<u>1441</u>		<u>view off of tuscarora</u> <u>Rd. looking East at site.</u>
<u>1P-3(s)</u>	<u>✓</u>	<u>1446</u>	<u>✓</u>	<u>view off of tuscarora</u> <u>rd. looking NE at back</u> <u>of site along access Rd.</u>

Attach additional sheets if necessary. Provide site name, TDD number, signature, and countersignature on each.

Signature: Robert L. Restivo Date: 11/9/87

Countersignature: Donna J. Restivo Date: 11/9/87

R E C E I V E D

JUN 13 1988

N.Y.S. DEPT. OF
ENVIRONMENTAL CONSERVATION
REGION 9